

vacuum chamber through the substrate holder simultaneously with the power supplied by the RF power unit, wherein

the bias power supply unit outputs the bias voltage composed of a negative bias component having a predetermined negative voltage value for a predetermined output time and a pulse bias component corresponding to a pulse output having a positive voltage value for a predetermined time with a cycle set in a range of 1 kHz to 1 GHz.

2. (Amended) The ion plating device according to Claim 1, wherein a ratio of the predetermined time of the pulse bias to the cycle of the bias voltage is 40% or less.

3. (Amended) The ion plating device according to Claim 1, wherein the pulse output of the pulse bias is a square wave pulse.

4. (Amended) The ion plating device according to Claim 2, wherein the pulse output of the pulse bias is a square wave pulse.

8. (Amended) The ion plating device according to any of Claims 1 to 4, wherein

the bias power supply unit comprises a direct current power supply for forming the negative bias and an impulse train power supply for forming the pulse bias, further comprising:

a low pass filter provided between the direct current power supply and the substrate holder, for passing an output of the direct current power supply therethrough toward the substrate holder and preventing an output of the impulse train power supply from being input to the direct current power supply; and

a band pass filter provided between the impulse train power supply and the substrate holder, for passing an output of the impulse train power supply therethrough toward the substrate holder and preventing an output of the direct current power supply from being input to the impulse train power supply.